JANUARY 2019 Update (4QCY2018)

LPWA devices forecast

Major changes to the forecast over the past six months include:

1. All tables were extended to 2023 to maintain our five-year forecast time horizon.

2. Table LPWA-1: The total shipments for NB-IoT, LTE-M, and 5G IoT were updated in accordance with our deep-dive studies on URLLC and Cellular IoT, published in late 2018. In general, we are seeing NB-ioT growing as expected with an installed base of roughly 30 million devices today. 5G LPWA remains a very weak forecast due to lack of clarity about how this will be differentiated vs. NB-IoT.

3. Table LPWA-3: Automotive and Industrial applications have been updated based on new information about C-V2X and adoption of URLLC in factory environments.

4. Table LPWA-5: We have left our fundamental assumptions about the growth of Private LTE constant, with a short delay in the US market due to later expected CBRS licensing. We expect to update our Private LTE view after our deep-dive Private LTE market study is published in February 2019.

5. Table LPWA-7: Service revenue growth has been increased in Industrial markets and fleet management areas. Note that we exclude Telematics from the LPWA category because "low power" is not required in the embedded automotive application.

6. Table LPWA-9 and LPWA-10: We updated the semiconductor revenue assumptions slightly, based on recent information about semiconductor subsidies in China.